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TRANSPORTATION.

The Statistics of Transportation.

For most, if not all branches of transportation, both annual and decennial statistical reports should be provided. There is no subject concerning which the public has greater need to keep informed. When the transportation service is not performed directly by the state, it is conducted by corporations which are chartered by the government and which in the interest of the public welfare, must be regulated by public authority. The government is also appropriating large sums of money to facilitate transportation, particularly that by water, and this constitutes an added reason why the transportation statistics should be made complete and should be collected regularly and frequently.

At the present time we do not annually collect statistics of our inland or coast-wise commerce or of our express and telegraph business. Yet the public regulation of railways and the intelligent appropriation of money for river and harbor improvements require such a knowledge of all these branches of transportation, with the exception of the telegraph, as can be had only by means of an annual collection of statistics.

The annual and decennial presentations should differ both in scope and character. The decennial compilation should be more detailed than the annual, and should make those comparisons needed to present the progress and evolution that is taking place in the various transportation agencies and services.

The transportation statistics of the eleventh census covered the coast-wise and inland water commerce of

the United States and the business done by our railroad, street railway and express companies. It was comparatively easy for the census officials to secure the statistics of steam railroad transportation because nearly all of the data desired from the railroad companies for the census are annually submitted to the Interstate Commerce Commission. In the case of coastwise and inland commerce, however, the only data published annually by the government are the tonnage statistics contained in the report of the United States Commissioner of Navigation. Carriers by water are not required to report their business annually, and to a large extent they carry on their business without the extensive organization which prevails in railway transportation. To obtain the census statistics of transportation by water, especially the statistics of inland navigation, was consequently more difficult than to obtain those of transportation by rail. The fact that there were no annual statistics of inland and coast-wise water transportation made the necessity for census statistics all the more urgent, and the census volume on *Transportation by Water* gives evidence of conscientious effort, put forth under good guidance, to secure the desirable data. It was impossible to secure complete statistics and doubtless there are many errors in those given. Indeed it will not be possible to secure full and reliable statistics of inland navigation until Congress compels carriers by water to keep a record of their business and make regular reports to the government.

The business of the express companies is well presented in the eleventh census. Unfortunately the statistics do not include quite all the express business done in this country, because one foreign corporation refused to furnish the information requested of it. This is

something whose recurrence can easily be prevented by legislation. If the express companies were obliged, as they should be, to make annual reports to the Interstate Commerce Commission, not only would the annual statistical volume published by that body give a more complete presentation of our transportation business by rail, but the decennial presentation of the express business could also be made much more valuable.

At the present time the Interstate Commerce Commission collects annual statistics of railroad transportation, and the Bureau of Statistics in the Treasury Department collects full statistics concerning our foreign commerce. The United States Commissioner of Navigation, also connected with the Treasury Department, in his annual report gives the statistics of the tonnage of vessels engaged in the foreign and domestic commerce of the United States. It is recommended that the Interstate Commerce Commission be instructed by Congress to collect annual statistics of all carriers by water, of the business of express companies and of telegraph companies. The statistics of our coast-wise commerce could be collected and published most advantageously by the Bureau of Statistics of the Treasury Department if the statute outlining the powers of the Bureau were so amended as include this function among its duties. The Interstate Commerce Commission and the Bureau of Statistics in the Treasury Department now have statistical machinery which can readily assume the added work of collecting the statistics here recommended.

Besides these annual statistics, both the Commission and the Bureau of Statistics referred to should publish decennially statistical volumes covering the work that has been done in the past by the census. These decen-

nial statistical presentations are of great value to the government and to students of industrial and social affairs, and when collected and published, as here suggested, they would be more accurate and more scientific in character than those given in such an enumeration as the census has presented. The additional cost involved in the decennial compilation by the existing bureaus would also be much less than that which would be incurred by the census authorities in performing the same work. There is every reason, then, both from the standpoint of a scientific statistical presentation and from that of economy, to favor the enlargement of the statistical work of these two bureaus.

As regards the statistics which the national government should collect in the future concerning street railway transportation, the time has probably not yet arrived for an annual compilation. The business of street railways is still mainly local and fairly distinct from the traffic done on steam railroads. The business of the two agents, however, is beginning to be less sharply separated and there is every indication that the electric railways are soon to enter very largely into the traffic operations now carried on by the steam railroads. There are already many inter-urban electric lines and some of them are interstate roads. For the present, however, it would seem best that the several states should collect annual statistics of street railways. Some states now do so, but the majority do not. If the states during the coming decade should not provide for the annual statistics, the United States should then undertake the work. Doubtless by that time, also, the inter-urban and interstate character of the street railway business will have developed to such a degree as to render

necessary an annual collection of statistics by the federal government.

Concerning the desirability of a national decennial presentation of street railway statistics, there can be no question. Those who have occasion to use such statistics fully appreciate the value of the volume on the statistics of street railways that was included in the eleventh census. A similar collection should be made in 1900, by the statistical department of the Interstate Commerce Commission. This and the other recommendations made in this report will, of course, add largely to the work of that department of the Interstate Commerce Commission, and larger appropriations to that department may be necessary. The Interstate Commerce Commission, however, can do the work more cheaply and more accurately than could any improvised statistical force.

The census statistics of transportation by steam railroads in 1890 were taken under very favorable circumstances, and it will be best to devote the remaining and greater portion of this report to a criticism of the railway statistics. The criticism will refer to the eleventh census and will contain certain suggestions touching the scope and character of the material that the future decennial compilations should contain.

In discussing the problem of the scope and method of railway statistics in the transportation volumes of the United States census, two questions present themselves. The first and more important is, what railway statistics can and should be presented to the public; and, secondly, what part of these statistics should be presented decennially and what in the annual statistical report of the Interstate Commerce Commission? It will be best to consider the second question first.

Both investigations, the eleventh census and the annual report of the Interstate Commerce Commission, seek to give a clear idea of the mileage and equipment, the capital, earnings and expenses, the *personnel*, number of accidents, etc., upon American railways, and both cover the ground in much the same manner.

It would be well in the future to co-ordinate more closely the annual and decennial reports. This does not mean, however, that what is printed in one must necessarily be excluded from the other. A large part of the data furnished by the Commission's annual statistical report might be given in an abridged form in the decennial volume. The chief purpose of the latter, however, should be to present the changes that have occurred during the preceding ten years. The annual volume should concern itself more with the changing features of the railway situation, while the decennial publication should go with greater detail into those features which are less mutable and more permanent in character.

The following are a few of the investigations with which a decennial volume to be prepared in 1900 might concern itself. A study might be made of the more technical side of the railways. The volume might furnish us with detailed statistics of gauge, curves, and gradients upon the different lines, the proportion of steel rails, the weight of the rails, the composition of the ties, the number, cost and general character of stations, a more detailed account of the locomotives and other rolling stock, and a number of other facts which are intrinsically interesting and which throw considerable light upon questions concerned with the cost of operation. Statistics of this sort are apparently better adapted to the decennial than to the annual publication, as they do not change so rapidly as does, for instance, the in-

come or expense account, and a decennial comparison would suffice to give a general idea of the railway development along these lines.

Another feature of this decennial report should be a presentation of the statistics of commodity ton-mileage. The eleventh census contained a general, but rather unsatisfactory, statement of the chief classes of commodities carried. Fourteen groups of commodities were singled out; but these accounted for little less than three-fifths of the total tonnage of the roads considered, and only tons and not ton-mileage figures were given. While the railways might possibly consider that a yearly statement of the ton-mileage of each commodity would involve an unreasonable amount of work, until less expensive methods of railway auditing are introduced, such a grievance could not be based upon a requirement to make a decennial report. These statistics would not be without value. They would show the localization of industries in various parts of the country as well as the trend of traffic from one kind of commodity to another, data which would have an important bearing upon the question of reasonableness of rates.

With reference to the general method of presentation of railway statistics, some changes seem desirable. While certain fundamental facts should be presented about all railways, it might be advisable to give in greater detail the results for a limited number of large roads instead of devoting considerable space to details of insignificant, although independent, railways. It is more important to have special information concerning a railway with ten thousand employees than to be furnished with general statements concerning lines employing one hundred men. It would be invidious and probably inadvisable to demand information from one

line that was not required of another, but the plan might be adopted of printing detailed information for the hundred largest railways, while filing the material presented by smaller railways.

The freight traffic statistics, both in the annual and decennial reports, might be divided not only into local and through business, but into intra-state and inter-state traffic. These statistics would be comparatively easy to furnish from the way-bills, and would be valuable in connection with questions of taxation, state control, etc.

The reports might also furnish statistics of car-miles. We now have train-mile and passenger—and ton-mile statistics, but the connecting link, car-miles, is missing. These statistics are easily obtainable and would be of importance in connection with questions of utilization of rolling stock, number of persons or of tons per car in various kinds of traffic, length of trains, etc. There are numerous practical questions of railway economy, upon which light would be thrown by the publication of car-mile statistics. Statistics of car-capacity might also be valuable in connection with questions of car load rates.

The wage statistics of railway employees might also be profitably incorporated into the decennial volume, and the present labor statistics contained in the Commission's Statistical Report might be somewhat remodelled and altered. Not only the average wages should be given, but also the number of employees in each of a number of wage classes should be presented, and it is equally advisable that the classification should be made more detailed and the groups more definite. The census reports of the future might also contain statistics of the hours of labor for the various groups of employees, similar to the statistics obtainable for Prussia or Saxony.

The question of capitalization and increase of capital of railways should be carefully considered in preparing the decennial report. There is probably nothing in the whole field of railway statistics, with the possible exception of those of "injuries in accidents", so inconclusive as the statistics of capitalization. The capital account of American railways presented by the official statistics means neither the amount spent on the construction of the railways, nor the total amount contributed by all parties, including the National, state and local governments, nor the cost of purchase of the railways, nor their present value, nor anything of real significance. To say that the capital account of American railways is some eleven thousand millions of dollars is to make a statement that has little economic value. A capital account of a million dollars may mean an investment of two millions or of five hundred thousand dollars, and the capital account may be doubled or halved without there being any increase or diminution of the real investment.

The lack of meaning in the statistics of capitalization could be overlooked, if it did not lead to their being given a false interpretation. The publication of capitalization statistics, which, whatever their relation to actual investment, are far in excess of the value of the railways, leads foreign and home critics to false conclusions and serves as a basis for many specious arguments and incorrect judgments. So general are the erroneous impressions derived from these statistics, that we might almost be tempted to consider it preferable to suppress the whole body of statistics of capital, on the ground of insufficiency of data.

If the present statistics of capitalization are retained, and we think on the whole that they should be, some

attempt should be made by the Commission in both annual and decennial reports to rectify the false impression which such statistics give. Such a correction might possibly be obtained by a table showing in parallel columns the market value of such of the stocks as are quoted, and the par value of the same securities. It would also be well to follow the example of the English reports in showing from year to year the increase in the capital account that is real and the increase that is nominal, in other words, that which is due to conversions, consolidations, etc. Such facts would give the public some conception of the actual amount of capital invested during the last year or decade, and some conception also of the actual present value of railway property.

In general the recommendations of this report are, that the Interstate Commerce Commission should be empowered and instructed to collect annually statistics not only of steam railway traffic but also of the business of inland water transportation, and of express and telegraph companies. The Bureau of Statistics in the Treasury Department, besides publishing statistics of foreign commerce, should also be instructed to publish annually statistics of our coast-wise traffic. In the future, both of these agencies should publish decennial statistical reports which should take the place of the presentation contained in the eleventh census. The decennial collection of the statistics of street railways should be made by the Interstate Commerce Commission. The decennial volumes should contain those details concerning which annual reports are not necessary but which properly belong in a decennial and comparative presentation. The relation which the annual and decennial reports of steam railway transportation should bear to

each other are indicated in this report. It seems hardly necessary to discuss here each branch of transportation in a similar manner.

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